REMARKS

After the foregoing amendment, claims 40-78, as amended, are pending in the application. Claims 1-39 have been canceled. Claims 40, 42, 44, 48-51, 55, 58, 61, 64, 68, 70, 73 and 76-78 have been amended to more particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant submits that no new matter has been added to the application by the Amendment.

Objection to the Abstract

The Examiner objected to the Abstract. However, it appears that the Examiner examined the Abstract of the original application and not the Abstract in the Preliminary Amendment filed and entered on September 11, 2001. Accordingly, since the Examiner's comments are not applicable to the present application, Applicant respectfully requests reconsideration and withdrawal of the objection to the Abstract.

Objection to the Specification

The Examiner objected to the specification for various informalities. Applicant has corrected typographical errors identified by the Examiner, and also those errors in the specification that have come to his attention, as noted on page 2 of the Amendment. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the Specification.

Objections to the Claims

The Examiner objected to claims 40, 42, 44, 48-51, 55, 58, 61, 64, 68, 70, 73 and 76-78 for various informalities. Applicant has corrected typographical errors identified by the Examiner as shown in the listing of claims starting at page 4 of the response. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objections to the claims.

Rejection - 35 U.S.C. § 112

The Examiner rejected claims 40-43 and 51-76 under 35 U.S.C. § 112, first paragraph as containing subject matter which was not described in the specification in such a

way as to enable one skilled in the art to which it pertains to make and use the invention. Applicant respectfully traverses the rejection.

Claims 40-43, 51-54 and 64-67

The Examiner states that it is unclear how one of ordinary skill in the art would configure an equivalent network to a given network, as recited in claims 40-43, 51-54 and 64-67.

Section E, sub-section 2 of the specification, at page 125, line 15 to page 129, line 7, teaches how to "configure equivalent banyan-type networks under cell rearrangement." Cell rearrangement is described starting at page 122 of the Application in section E entitled "Equivalence among Bit Permitting Networks under Intra-stage Cell Rearrangement." Specifically, the use of a permutation κ to arrive at a given representation is described at page 124, lines 7-12.

The location for the support for each of the individual claims is given below. Unless otherwise specified, a dependent claim has the same support as the independent claim it is depending on.

Claim 40: Section E, sub-section 1 and sub-section 3, especially p. 124, lines 7-12.

Claim 41: depends on claim 40. Additional support: Section E, sub-section 2.

Claim 42: Section E, sub-section 1 and sub-section 3, especially p. 124, lines 7-12.

Claim 43: depends on claim 40. Additional support: Section E, sub-section 2.

Claim 51: Section E, sub-sections 1-3, especially p. 125, line 16 to p. 126, line 5.

Claims 52-54: depends on claim 51.

Claim 64: Section E, sub-sections 1-3, especially p. 125, line 16 to p. 126, line 5.

Claims 65-67: depends on claim 64.

Claims 55-63

Claims 55-63 are each directed to configuring a network to achieve a desired trace and/or guide of a network by prepending an input exchange and/or appending an output

exchange to the network. The Examiner states that how an input exchange and an output exchange are induced is not described.

Section C, sub-section 9 at page 93, line 18 to page 98, line 5, and Fig. 29 teaches how to alter the trace of a banyan-type network or a bit-permuting network by prepending an input exchange, and altering the guide by appending an output exchange. Specifically, the method of inducing a trace or a guide by a permutation of τ is described at page 94, lines 8-9.

The location for the support for each of the individual claims is given below. Unless otherwise specified, a dependent claim has the same support as the independent claim it is depending on.

Claim 55: Section C, sub-section 9, especially p. 95, line 4 to p. 96, line 4.

Claim 56: depends on claim 55.

Claim 57: depends on claim 55. Additional support: p. 96, line 13 to p. 97, line 5.

Claim 58: Section C, sub-section 9, especially p. 95, line 4 to p. 96, line 4.

Claim 59: depends on claim 58.

Claim 60: depends on claim 58. Additional support: p. 96, line 13 to p. 97, line 5.

Claim 61: Section C, sub-section 9, especially p. 95, line 4 to p. 96, line 4.

Claim 62: depends on claim 61.

Claim 63: depends on claim 61. Additional support: p. 96, line 13 to p. 97, line 5.

Claims 68-69

The Examiner states that it is not described how a second trace and a second guide are induced by a permutation. The method for inducing a second trace and/or a second guide is described at page 95, line 4 to page 96, line 4.

Claims 70, 73 and 76

The Examiner states that the method for inducing an extra input exchange and/or an extra output exchange is not described. Applicant respectfully submits that it is not the input/output exchanges that are induced but rather the guide and the trace that are induced by a permutation. Such permutation can be implemented by prepending the network with an extra

input exchange or by appending the network with an extra output exchange as described at page 95, line 4 to page 96, line 4.

Applicant has identified the location of support in the application for each of the ξ 112 rejections of claims 40-43 and 51-76. Applicant further submits that a person of ordinary skill in the requisite art to which it pertains could, using the description in the Application identified above, make and use the invention. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the ξ 112 rejections of claims 40-43 and 51-76.

Rejection - 35 U.S.C. § 112

The Examiner rejected claim 40, 41, 51-54, 68, 69, 77 and 78 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses the rejection.

Claim 51 has been amended to insert the phrase "k-stage" after $2^n \times 2^n$. In claims 40, 41, 51-54, 77, and 78, the "k" in "k-stage bit-permuting network" represents the number of switching stages in a network <u>as made clear by the plain language of the claim.</u>

Similarly, the plain language of the symbol "κ" where it appears in claims 40, 41, 51-54 is <u>clearly defined, by the plain language of the claim, as a permutation parameter.</u> Accordingly, Applicant submits that one of ordinary skill in the art would have no trouble distinguishing the English letter k from the Greek letter κ.

Regarding claims 68 and 69, the "X" in "input exchange X_λ" and "output exchange X_π" is NOT a variable, but simply a symbol representing an exchange. Input and output exchanges are described at page 49, line 8 to page 50 line 12 of the Application. A description of exchanges can be found at p. 51, lines 7-16. An introduction to the symbol X is at page 51, lines 6-16.
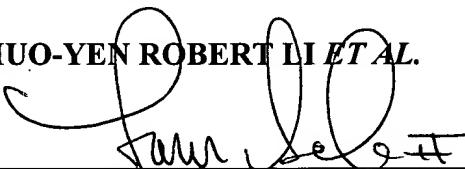
Applicant has addressed each of the ξ 112 rejections of claims 40, 41, 51-54, 68, 69, 77 and 78. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the ξ 112 rejections of claims 40, 41, 51-54, 68, 69, 77 and 78.

Conclusion

Insofar as the Examiner's objections and rejections have been fully addressed, the instant application, including claims 40-78, is in condition for allowance and Notice of Allowability of claims 40-78 is therefore earnestly solicited.

Respectfully submitted,

SHUO-YEN ROBERT LI *ET AL.*

July 13, 2005   By: _____
(Date)

LOUIS SICKLES II
Registration No. 45,803
AKIN GUMP STRAUSS HAUER & FELD LLP
One Commerce Square
2005 Market Street, Suite 2200
Philadelphia, PA 19103-7013
Telephone: 215-965-1200
Direct Dial: 215-965-1294
Facsimile: 215-965-1210
E-Mail: lsickles@akingump.com

LS:lcd

17